

Listing and Amendments to the Claims

This listing of claims will replace the claims that were published in the PCT Application and annexed to the International Preliminary Report on Patentability:

1. (currently amended) A projection display device comprising:
 - means ~~(6)~~ of projecting an image onto a screen ~~(10)~~ having an output axis called a main axis ~~(AA')~~;
 - the screen ~~(10)~~ comprising at least one optical plate ~~(12; 32)~~,
wherein ~~characterized in that~~ the optical plate ~~(12; 32)~~ comprises:
 - on a first side, a first set of optical elements ~~(14; 34)~~ designed to bend rays ~~(R_i)~~ received from said image projection means into a beam of rays ~~(R_{int})~~ that are essentially parallel to a first direction in a plane containing the main axis ~~(AA')~~,
 - on a second side, a second set of prismatic elements ~~(16; 36)~~ with identical section or a holographic device for bending said beam in a second direction ~~(R_e)~~ different from the first direction ~~(R_{int})~~.
2. (currently amended) The device as claimed in claim 1, wherein ~~characterized in that~~ the second side comprises a second set of prismatic elements with identical section, at least some of the prismatic elements ~~(16; 36)~~ comprising a first side ~~(26; 42)~~ having an orientation such that the rays in the first direction ~~(R_{int})~~ are refracted in the second direction ~~(R_e)~~.
3. (currently amended) The device as claimed in claim 2, wherein ~~characterized in that~~ at least some of the prismatic elements comprise a second side having a side that is essentially parallel to said side of the first optical element in said plane.
4. (currently amended) The device as claimed in claim 1, wherein ~~characterized in that~~ the second side includes a holographic device to bend the beam in the second direction ~~(R_e)~~.

5. (currently amended) The device as claimed in ~~any one of~~ claims 1 ~~to~~ 4, wherein ~~characterized in that~~ said plate has symmetry of revolution about the main axis (~~AA'~~) and in which the second direction (R_C) is directed essentially in line with the main axis (~~AA'~~).
6. (currently amended) The device as claimed in ~~one of~~ claims 1 ~~to~~ 5, wherein ~~characterized in that~~ the optical elements (~~14~~) are designed to bend the rays from the source by refraction.
7. (currently amended) The device as claimed in ~~one of~~ claims 1 ~~to~~ 5, wherein ~~characterized in that~~ the optical elements (~~34~~) each include a side (~~38~~) designed to reflect the rays (~~R_i~~) from the source in the first direction (~~R_{int}~~).
8. (currently amended) The device as claimed in ~~any one of~~ claims 1 ~~to~~ 7, wherein ~~characterized in that~~ the first set of optical elements is designed to bend rays received from projection means into a beam of rays forming an angle less than or equal to 3° with the first direction.
9. (currently amended) The device as claimed in ~~any one of~~ claims 1 ~~to~~ 8, wherein ~~characterized in that~~ the second direction forms an angle greater than or equal to 10° with the first direction.
10. (currently amended) The display device as claimed in ~~any one of~~ claims 1 ~~to~~ 9, wherein ~~characterized in that~~ the projection means (~~6~~) are such that the rays (~~R_i~~) are received by the optical plate (~~12~~) with orientations (~~θ~~) relative to the general direction of the optical plate (~~12~~) varying over a continuous range of non-zero orientations relative to the main axis (~~AA'~~) and in which the first direction (~~R_{int}~~) corresponds to one (~~θ_{int}~~) of the orientations of said continuous range.

11. (currently amended) An optical plate (~~12; 32~~) for projection device comprising image projection means having an output axis called a main axis (~~AA'~~) as ~~claimed in any one of claims 1 to 10, wherein characterized in that~~ said plate comprises, on a first side, a first set of optical elements (~~14; 34~~) designed to bend rays (R_i) received from said projection means into a beam of rays (R_{int}) that are essentially parallel to a first direction in a plane containing the main axis (~~AA'~~),
- on a second side, a second set of prismatic elements (~~16; 36~~) with identical section or a holographic device for bending said beam in a second direction (R_e) different from the first direction (R_{int}).